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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,599	12/18/2001	Robert A. Marshall	062891.0574	7923

5073 7590 10/03/2005

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EXAMINER	
FOX, JAMAL A	
ART UNIT	**PAPER NUMBER**
2664	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/025,599	MARSHALL ET AL.	
	Examiner	Art Unit	
	Jamal A. Fox	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-18,20,21,23-30,33-35 and 38-42* is/are rejected.

7)☒ Claim(s) *6,19,22,31,32,36 and 37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/18/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 7-18, 20, 21, 23-28, 30, 33-35 and 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Gatherer et al. (U.S. Patent No. 6,044,107).

Referring to claim 1, Gatherer et al. discloses a method comprising:

Providing a line card (Fig. 1c and respective portions of the spec.) having:

a digital signal processor (Fig. 1c, ref. sign 150 and respective portions of the spec.) for manipulating data received by the line card;

a transmit channel (Fig. 1c, the arrows pointing to the right of the A/D-D/A) and a receive channel (Fig. 1c, the arrows pointing to the left of ref. sign 112 towards the A/D-D/A), the combined transmit and receive channel for a transmitting and receiving communications with the line card;

wherein the transmit channel comprises a first amplifier (Fig. 1c, ref. sign 180 at the bottom) for amplifying a signal in the transmit signal and the receive channel comprises a second amplifier (Fig. 1c, ref. sign 180 at the top) for amplifying a signal in the receive channel;

one or more electrical components (Fig. 1c, see the inside of ref. sign 112) in the combined channel;

a switch (Fig. 1c, see the two switches inside of ref. sign 112 and switch, col. 16 lines 25-35 and col. 53 lines 25-60) disposed in the combined channel;

terminating the combined channel with a termination network (Fig. 1c ref. sign 112 and respective portions of the spec.), the termination network having a desired impedance (impedance, col. 17 lines 50-55);

transmitting a test signal (test signal, col. 3 lines 10-15) through at least a portion of the transmit channel toward the combined channel; and

detecting (detection, col. 53 lines 60-67), by the digital signal processor (DSP, col. 54 lines 1-14) , any resulting signal in the receive channel.

Referring to claim 2, Gatherer et al. discloses the method of claim 1, wherein the transmit channel and the receive channel are coupled to the combined channel by a hybrid (Fig. 6e ref. sign 670 and respective portions of the spec.).

Referring to claim 3, Gatherer et al. discloses the method of claim 1, wherein the one or more electrical components comprises a transformer (Fig. 4a ref. sign 46 and respective portions of the spec.).

Referring to claim 5, Gatherer et al. discloses the method of claim 1, wherein the desired impedance (impedance, col. 17 lines 50-55) is approximately equal to a characteristic impedance (impedance, col. 17 lines 50-55) of a communication line conventionally used with the line card.

Referring to claim 7, Gatherer et al. discloses the method of claim 1, wherein transmitting a test signal through at least a portion of the transmit

channel toward the combined channel further comprises transmitting a test signal (test signal, col. 3 lines 10-15) to the termination network (Fig. 1c ref. sign 112 and respective portions of the spec.).

Referring to claim 8, Gatherer et al. discloses the method of claim 7, wherein detecting (detection, col. 53 lines 60-67), by the digital signal processor (DSP, col. 54 lines 1-14), any resulting signal in the receive channel comprises detecting a signal reflected by the termination network (Fig. 1c ref. sign 112 and respective portions of the spec.).

Referring to claim 9, Gatherer et al. discloses the method of claim 1, wherein detecting (detection, col. 53 lines 60-67) by digital signal processor (DSP, col. 54 lines 1-14), any resulting signal in the receive channel comprising detecting no reflected signal from the termination network (Fig. 1c ref. sign 112 and respective portions of the spec.).

Referring to claim 10, Gatherer et al. discloses the method of claim 1, wherein detecting (detection, col. 53 lines 60-67), by digital signal processor (DSP, col. 54 lines 1-14), any resulting signal in the receive channel comprising detecting a signal reflected by one or more components.

Referring to claim 11, Gatherer et al. discloses the method of claim 1, and further comprising filtering (filtering, col. 20 lines 60-67 and col. 21 lines 28-34), within the transmit channel, the transmitted signal.

Referring to claim 12, Gatherer et al. discloses the method of claim 1, and further comprising filtering (filtering, col. 20 lines 60-67 and col. 21 lines 28-34), within the receive channel, any reflected signal.

Referring to claim 13, Gatherer et al. discloses the method of claim 1, and further comprising terminating, by the switch, any test signal in the combined channel and then again detecting (detection, col. 53 lines 60-67) by digital signal processor (DSP, col. 54 lines 1-14), and resulting signal in the receive channel (Fig. 1c, the arrows pointing to the left of ref. sign 112 towards the A/D-D/A).

Referring to claim 14, Gatherer et al. discloses the method of claim 1, and further comprising comparing (comparing, col. 34 lines 45-50) the detected (detection, col. 53 lines 60-67) signal to an expected signal.

Referring to claim 15, Gatherer et al. discloses the method of claim 1, wherein the termination network (Fig. 1c ref. sign 112 and respective portions of the spec.) is formed on the line card.

Referring to claim 16, Gatherer et al. discloses the method of claim 1, wherein the termination network (Fig. 1c ref. sign 112 and respective portions of the spec.) is formed external to the line card.

Referring to claim 17, Gatherer et al. discloses a method for self-testing a portion of a line card (Fig. 1c and respective portions of the spec.) having a transmit channel (Fig. 1c, the arrows pointing to the right of the A/D-D/A) and a receive channel (Fig. 1c, the arrows pointing to the left of ref. sign 112 towards the A/D-D/A) coupled to a combined transmit and receive channel and also

having a digital signal processor (Fig. 1c, ref. sign 150 and respective portions of the spec.) for manipulating data received by the line card, the method comprising:

transmitting a test signal (test signal, col. 3 lines 10-15) through at least a portion of the transmit channel toward the combined channel; and

detecting (detection, col. 53 lines 60-67), by the digital signal processor, any resulting signal in the receive channel to determine whether any components in the transmit channel, receive channel, or combined channel are malfunctioning.

Referring to claim 18, Gatherer et al. discloses the method of claim 17, and further comprising terminating the combined channel with a termination circuit (Fig. 1c ref. sign 112 and respective portions of the spec.) having a desired impedance (impedance, col. 17 lines 50-55).

Referring to claim 20, Gatherer et al. discloses the method of claim 17, and further comprising comparing (comparing, col. 34 lines 45-50) the detected (detection, col. 53 lines 60-67) signal to an expected detected (detection, col. 53 lines 60-67) signal.

Referring to claim 21, Gatherer et al. discloses the method of claim 18, and further comprising comparing (comparing, col. 34 lines 45-50) the detected (detection, col. 53 lines 60-67) signal to an expected detected signal.

Referring to claim 23, Gatherer et al. discloses the method of claim 20, further comprising filtering (filtering, col. 20 lines 60-67 and col. 21 lines 28-34)

the test signal (test signal, col. 3 lines 10-15) within the portion of the transmit channel.

Referring to claim 24, Gatherer et al. discloses the method of claim 23, wherein comparing the detected signal comprises comparing (comparing, col. 34 lines 45-50) the detected (detection, col. 53 lines 60-67) signal to the filtered (filtering, col. 20 lines 60-67 and col. 21 lines 28-34) test signal (test signal, col. 3 lines 10-15).

Referring to claim 25, Gatherer et al. discloses the method of claim 18, wherein the impedance (impedance, col. 17 lines 50-55) of the termination circuit (Fig. 1c ref. sign 112 and respective portions of the spec.) is approximately the characteristic impedance (impedance, col. 17 lines 50-55) of an input line to the line card (Fig. 1c and respective portions of the spec.).

Referring to claim 26, Gatherer et al. discloses the method of claim 18, and further comprising introducing an open (open, col. 35 lines 60-65) in the combined channel.

Referring to claim 27, Gatherer et al. discloses the method of claim 17, and further comprising terminating the combined channel with a termination circuit (Fig. 1c ref. sign 112 and respective portions of the spec.) having an impedance (impedance, col. 17 lines 50-55) and providing a switch (Fig. 1c, see the two switches inside of ref. sign 112 and switch, col. 16 lines 25-35 and col. 53 lines 25-60) in the combined channel before the termination circuit (Fig. 1c ref. sign 112 and respective portions of the spec.).

Referring to claim 28, Gatherer et al. discloses the method of claim 27, and further comprising selectively opening (open, col. 35 lines 60-65) or closing the switch (Fig. 1c, see the two switches inside of ref. sign 112 and switch, col. 16 lines 25-35 and col. 53 lines 25-60) to test the one or more of the components.

Referring to claim 30, Gatherer et al. discloses a method of self-testing a portion of a line card (Fig. 1c and respective portions of the spec.) having a digital signal processor (Fig. 1c, ref. sign 150 and respective portions of the spec.) for manipulating data received by the line card, a transmit channel (Fig. 1c, the arrows pointing to the right of the A/D-D/A), a receive channel (Fig. 1c, the arrows pointing to the left of ref. sign 112 towards the A/D-D/A), and a combined transmit and receive channel coupled to the transmit and receive channels, the method comprising:

terminating the combined channel with a termination network (Fig. 1 ref. sign 112 and respective portions of the spec.);

transmitting a test signal (test signal, col. 3 lines 10-15) through a portion of the transmit channel toward the combined channel;

selectively opening or closing a switch (Fig. 1c, see the two switches inside of ref. sign 112 and switch, col. 16 lines 25-35 and col. 53 lines 25-60) within the combined channel; and

detecting (detection, col. 53 lines 60-67), by the digital signal processor (Fig. 1c, ref. sign 150 and respective portions of the spec.), any resulting signal in

the receive channel after opening or closing of the switch to determine whether any components in the transmit channel, receive channel, or combined channel are malfunctioning.

Referring to claim 33, Gatherer et al. discloses the method of claim 30, and further comprising comparing (comparing, col. 34 lines 45-50) the detected (detection, col. 53 lines 60-67) signal to the test signal (test signal, col. 3 lines 10-15).

Referring to claim 34, Gatherer et al. discloses the method of claim 30, and further comprising comparing (comparing, col. 34 lines 45-50) the detected (detection, col. 53 lines 60-67) signal to an expected detected signal.

Referring to claim 35, Gatherer et al. discloses a system for allowing self-test of a line card (Fig. 1c and respective portions of the spec.) comprising:

a line card (Fig. 1c and respective portions of the spec.) comprising:

a transmit channel (Fig. 1c, the arrows pointing to the right of the A/D-D/A) and a receive channel (Fig. 1c, the arrows pointing to the left of ref. sign 112 towards the A/D-D/A) coupled to a combined transmit and receive channel, the combined transmit and receive channel operable to transmit and receive communications with line card;

a termination network (Fig. 1 ref. sign 112 and respective portions of the spec.) operable to terminate the combined channel and having an impedance (impedance, col. 17 lines 50-55); and

a switch (Fig. 1c, see the two switches inside of ref. sign 112 and switch, col. 16 lines 25-35 and col. 53 lines 25-60) on the line card operable to selectively couple the termination network to the combined channel; and

a digital signal processor (Fig. 1c, ref. sign 150 and respective portions of the spec.) formed on the line card and operable to manipulate data formed on the line card, the digital signal processor coupled to the receive channel and operable to detect (detection, col. 53 lines 60-67) any reflection of a signal transmitted through the transmit channel toward the combined channel.

Referring to claim 38, Gatherer et al. discloses the system of claim 35, wherein the termination network has an impedance (impedance, col. 17 lines 50-55) approximately equal to a characteristic impedance (impedance, col. 17 lines 50-55) associated with a telephone line.

Referring to claim 39, Gatherer et al. discloses the system of claim 35, wherein the combined channel comprises one or more electrical components (Fig. 1c, see the inside of ref. sign 112) to be tested.

Referring to claim 40, Gatherer et al. discloses the system of claim 39 wherein one or more electrical components comprises a transformer (Fig. 4a ref. sign 46 and respective portions of the spec.).

Referring to claim 41, Gatherer et al. discloses the system of claim 35, wherein the transmit channel and receive channel are coupled to combined channel by a hybrid (Fig. 6e ref. sign 670 and respective portions of the spec.).

Referring to claim 42, Gatherer et al. discloses a system for allowing self-test of a line card (Fig. 1c and respective portions of the spec.) comprising:

a transmit means (Fig. 1c, the arrows pointing to the right of the A/D-D/A) for transmitting a transmit signal;

a receive means (Fig. 1c, the arrows pointing to the left of ref. sign 112 towards the A/D-D/A) for receiving a receive signal;

a combined means (Mux, Figures 15j and 15k) for transmitting and receiving communications with the line card;

a termination means (Fig. 1 ref. sign 112 and respective portions of the spec.) for selectively terminating the combined means;

a switch means (Fig. 1c, see the two switches inside of ref. sign 112 and switch, col. 16 lines 25-35 and col. 53 lines 25-60) for selectively coupling the termination means to the combined means; and

a digital signal processor means (Fig. 1c, ref. sign 150 and respective portions of the spec.) formed on the line card for manipulating data received by the line card and for detecting (detection, col. 53 lines 60-67) any reflection of a signal transmitted through the transmit means toward the combined means.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-5, 11, 12, 14, 17, 29, 30, 35 and 38-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Amrany et al. (U.S. Patent No. 6,192,109).

Referring to claim 1, Amrany et al. discloses a method comprising:

providing a line card (Fig. 2, ref. sign 40 and col. 5 lines 5-10) having:

a digital signal processor (DSP, Fig. 4 ref. sign 114 and respective portions of the spec.) for manipulating data received by the line card;

a transmit channel (Fig. 4, the arrow going towards the Transmitter from the DSP) and a receive channel (Fig. 4, the arrow going towards the DSP from the Receiver), the combined transmit and receive channel for a transmitting and receiving communications with the line card;

wherein the transmit channel comprises a first amplifier (Fig. 4 directly above ref. sign 108) for amplifying a signal in the transmit signal and the receive channel comprises a second amplifier (Fig. 4 ref. sign 108) for amplifying a signal in the receive channel;

one or more electrical components (see Fig. 4) in the combined channel;

a switch (Fig. 4 ref. sign 102 and respective portions of the spec.) disposed in the combined channel;

terminating the combined channel with a termination network (Fig. 4 ref. sign 124 and respective portions of the spec.), the termination network having a desired impedance (impedance, col. 3 lines 33-65 and col. 4 lines 15-20);

transmitting a test signal (test signal, col. 3 lines 20-40 and col. 8 lines 35-58) through at least a portion of the transmit channel toward the combined channel; and

detecting (detecting, col. 3 lines 10-15), by the digital signal processor, any resulting signal in the receive channel.

Referring to claim 2, Amrany et al. discloses the method of claim 1, wherein the transmit channel and the receive channel are coupled to the combined channel by a hybrid (col. 4 lines 23-27).

Referring to claim 3, Amrany et al. discloses the method of claim 1, wherein the one or more electrical components comprises a transformer (Fig. 4 ref. sign 118 and respective portions of the spec.).

Referring to claim 4, Amrany et al. discloses the method of claim 1, wherein the one or more electrical components comprises a connector (Fig. 3 ref. signs 52, 54 and 56 and respective portions of the spec.).

Referring to claim 5, Amrany et al. discloses the method of claim 1, wherein the desired impedance (impedance, col. 3 lines 33-65 and col. 4 lines 15-20) is

approximately equal to a characteristic impedance (impedance, col. 3 lines 33-65 and col. 4 lines 15-20) of a communication line conventionally used with the line card.

Referring to claim 11, Amrany et al. discloses the method of claim 1, and further comprising filtering (filtering, col. 1 lines 61-67), within the transmit channel, the transmitted signal.

Referring to claim 12, Amrany et al. discloses the method of claim 1, and further comprising filtering (filtering, col. 1 lines 61-67), within the receive channel, any reflected signal.

Referring to claim 14, Amrany et al. discloses the method of claim 1, and further comprising comparing (comparing, col. 9 lines 13-34) the detected signal to an expected signal.

Referring to claim 17, Amrany et al. discloses a method for self-testing a portion of a line card (Fig. 2, ref. sign 40 and col. 5 lines 5-10) having a transmit channel (Fig. 4, the arrow going towards the Transmitter from the DSP) and a receive channel (Fig. 4, the arrow going towards the DSP from the Receiver) coupled to a combined transmit and receive channel and also having a digital signal processor (DSP, Fig. 4 ref. sign 114 and respective portions of the spec.) for manipulating data received by the line card, the method comprising:

transmitting a test signal (test signal, col. 3 lines 20-40 and col. 8 lines 35-58) through at least a portion of the transmit channel toward the combined channel; and

detecting (detecting, col. 3 lines 10-15), by the digital signal processor, any resulting signal in the receive channel to determine whether any components in the transmit channel, receive channel, or combined channel are malfunctioning.

Referring to claim 29, Amrany et al. discloses the method of claim 17, and further comprising shorting (short-circuited, col. 3 lines 60-67 and col. 8 lines 5-10) the combines channel to itself.

Referring to claim 30, Amrany et al. discloses a method of self-testing a portion of a line card (Fig. 2, ref. sign 40 and col. 5 lines 5-10) having a digital signal processor (DSP, Fig. 4 ref. sign 114 and respective portions of the spec.) for manipulating data received by the line card, a transmit channel (Fig. 4, the arrow going towards the Transmitter from the DSP), a receive channel (Fig. 4, the arrow going towards the DSP from the Receiver), and a combined transmit and receive channel coupled to the transmit and receive channels, the method comprising:

terminating the combined channel with a termination network (Fig. 4 ref. sign 124 and respective portions of the spec.);

transmitting a test signal (test signal, col. 3 lines 20-40 and col. 8 lines 35-58) through a portion of the transmit channel toward the combined channel;

selectively opening or closing a switch within the combined channel; and

detecting (detecting, col. 3 lines 10-15), by the digital signal processor, any resulting signal in the receive channel after opening or closing of the switch to determine whether any components in the transmit channel, receive channel, or combined channel are malfunctioning.

Referring to claim 35, Amrany et al. discloses a system for allowing self-test of a line card comprising:

a line card (Fig. 2, ref. sign 40 and col. 5 lines 5-10) comprising:

a transmit channel (Fig. 4, the arrow going towards the Transmitter from the DSP) and a receive channel (Fig. 4, the arrow going towards the DSP from the Receiver) coupled to a combined transmit and receive channel, the combined transmit and receive channel operable to transmit and receive communications with line card;

a termination network (Fig. 4 ref. sign 124 and respective portions of the spec.) operable to terminate the combined channel and having an impedance (impedance, col. 3 lines 33-65 and col. 4 lines 15-20); and

a switch (Fig. 4 ref. sign 102 and respective portions of the spec.) on the line card operable to selectively couple the termination network to the combined channel; and

a digital signal processor (DSP, Fig. 4 ref. sign 114 and respective portions of the spec.) formed on the line card and operable to manipulate data formed on the line card, the digital signal processor coupled to the receive channel and operable to detect (detecting, col. 3 lines 10-15) any reflection of a signal transmitted through the transmit channel toward the combined channel.

Referring to claim 38, Amrany et al. discloses the system of claim 35, wherein the termination network has an impedance (impedance, col. 3 lines 33-65 and col. 4

lines 15-20) approximately equal to a characteristic impedance (impedance, col. 3 lines 33-65 and col. 4 lines 15-20) associated with a telephone line.

Referring to claim 39, Amrany et al. discloses the system of claim 35, wherein the combined channel comprises one or more electrical components (see Fig. 4) to be tested.

Referring to claim 40, Amrany et al. discloses the system of claim 39 wherein one or more electrical components comprises a transformer (Fig. 4 ref. sign 118 and respective portions of the spec.).

Referring to claim 41, Amrany et al. discloses the system of claim 35, wherein the transmit channel and receive channel are coupled to combined channel by a hybrid (col. 4 lines 23-27).

Referring to claim 42, Amrany et al. discloses a system for allowing self-test of a line card (Fig. 2, ref. sign 40 and col. 5 lines 5-10) comprising:

a transmit means (Fig. 4, the arrow going towards the Transmitter from the DSP) for transmitting a transmit signal;

a receive means (Fig. 4, the arrow going towards the DSP from the Receiver) for receiving a receive signal;

a combined means (Fig. 4, ref. sign 104 and respective portions of the spec.) for transmitting and receiving communications with the line card;

a termination means (Fig. 4 ref. sign 124 and respective portions of the spec.) for selectively terminating the combined means;

a switch means (Fig. 4 ref. sign 102 and respective portions of the spec.) for selectively coupling the termination means to the combined means; and a digital signal processor (DSP, Fig. 4 ref. sign 114 and respective portions of the spec.) means formed on the line card for manipulating data received by the line card and for detecting (detecting, col. 3 lines 10-15) any reflection of a signal transmitted through the transmit means toward the combined means.

Allowable Subject Matter

5. Claims 6, 19, 22, 31, 32, 36 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for formal communications intended for entry)

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamal A. Fox whose telephone number is (571) 272-3143. The examiner can normally be reached on Monday-Friday 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to 2600 Customer Service whose telephone number is (571) 272-2600.

Jamal A. Fox

Jamal A. Fox

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER